

# Lake Pepin Ice Measurements

## Frequently Asked Questions

**Q: Why do we record ice thickness measurements?**

A: We record ice measurements on Lake Pepin as a partnering effort with the navigation industry. They use the data determine when towing upstream into Red Wing, Minn., and St. Paul, Minn., might be possible.

**Q: Why Lake Pepin?**

A: Most of the main channel opens up or melts before Lake Pepin because it is narrow and the water flow keeps it open. Lake Pepin is much wider than most of the main channel areas, so it's usually the last obstacle preventing southern tows from getting up to Red Wing and St. Paul.

**Q: When and how often are the measurements taken?**

A: Much depends on weather conditions from year to year but the measurements usually start in mid-February and are taken each week until it is clear that the ice is no longer a barrier to commercial navigation.

**Q: How and where are the measurements taken?**

A: Measurements are taken at one-mile intervals along the main sailing line through Lake Pepin from Mile 765 to Mile 786. A Global Positioning System location is documented at each of the measurement points to insure that measurements are repeated from week to week and from year to year at the same locations. This makes it easy to compare measurements from week-to-week and year-to-year. A two-person crew travels to each location using an airboat. At the location, they use an ice auger to drill through the ice and record the measurement.

**Q: What kind of data is recorded?**

A: The crew records the thickness for blue ice and white ice. Blue ice, sometimes called black ice, is clear and solid. White ice or snow ice has air bubbles. Together, they equal the total ice thickness.

**Q: Does the ice need to be completely gone before tows can navigate the area?**

A: No. Individual towing companies will determine how much ice they will break through, but it is not uncommon to see them break through 12-15 inches of solid blue ice. In 2004, a tow broke through a seven-mile stretch with blue ice 17-19 inches thick (the REGGIE G with 12 barges loaded with fertilizer).

**Q: What is the average ice thickness on Lake Pepin when measurements begin in mid-February?**

A: The average ice thickness on Lake Pepin for the second week in February from 1998 to 2005 is 16 inches, but this can be misleading. It's more important to look at the thickest measurements and how long that reach is. The Corps' office in Fountain City, Wis., began keeping records of ice thickness in 1998. From 1998 to 2005, measurements have ranged from less than 5 inches to 26 inches. The thickest location is usually at Mile 770, which is about 3 miles south of Lake City, Minn.

**Q: How soon does navigation usually begin in the St. Paul District?**

A: The St. Paul District considers the day the first commercial tow locks upstream through Lock and Dam 2 as the official start of the navigation season for the district. The day varies, but the average for the last 10 years has been March 20. The earliest date was March 4, in 1984 and 2000, and the latest date was April 7, in 1978. The historic record first tow through Lock and Dam 2 to St. Paul through the decades is as follows: 30s = April 12, 40s = March 30, 50s = April 1, 60s = March 20, 70s = March 16, 80s = March 4, 90s = March 16 and 00s = March 4.